

With the Author's kind regards.

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# THE WRECK OF THE PREUSSEN:

A CRITICAL EXAMINATION OF THE  
STATISTICS OF SMALLPOX

*On the Voyage of the S.S. "PREUSSEN," 1886-7.*

BY

ALFRED MILNES, M.A., F.S.S.

*Reprinted from the "Vaccination Inquirer," April, 1890.*

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#### ADVERTISEMENT.

The story of the outbreak of smallpox on board the s.s. *Preussen* having been transplanted from the debates in the House of Commons and the columns of the ephemeral press to the more formal and permanent tribunal of the Royal Commission on Vaccination, now sitting, it was thought advisable to examine the matter somewhat fully. The following pages, now reprinted from the "*Vaccination Inquirer*" of April, 1890, were the result.

April, 1890.



## The Wreck of the *Preussen*.

OUR readers will recollect how the story of the voyage of the steamer *Preussen* was dinned into our ears during the twelve months of 1887. It went the round of the press, Mr. Ritchie used it in the House of Commons, the Local Government Board were sent delirious with it, the whole vaccine party shouted it, quoted it, copied it out for the local paper, and voted *nem. con.* that we were withered with it. Mr. Thorne Thorne it wholly carried away. Yet, by some strange oversight, the *Preussen* did not come steaming into the Commission-room on the first appearance of Mr. Thorne, as we had quite expected she would. How it happened we know not; perhaps somebody spoke to the man at the wheel; but certain it is, that the *Preussen* failed to make the harbour on the first day of Mr. Thorne's examination. So the next day Sir William Savory took her in tow and brought her up alongside after this fashion:—

994. (Mr. Savory).—I should like to ask you with regard to some questions which have been put concerning the relation of improved sanitary measures to the diminution of smallpox. Is your answer to that as complete as you would wish it to be?—I have some more information I could give, since special attention appears to have been directed to this point. The Local Government Board, in 1886, took some pains to get the figures as to the steamship *Preussen*, bound for Australia, on board of which smallpox broke out. You have, of course, on a vessel, people living under the same sanitary circumstances, eating very much the same food, and in all respects practically alike, with the

*one solitary exception of vaccination.* There were 312 persons on board this vessel. Of persons both vaccinated and revaccinated there were fifty-five; four of those were attacked by smallpox—none died. Of persons vaccinated but not revaccinated there were 209, forty-five of whom were attacked by smallpox and three died; thirteen persons had previously had smallpox, of whom three were attacked by smallpox and none died. Of persons stated to be vaccinated, but showing no scars, there were sixteen, two of whom were attacked by smallpox, and none died. Lastly, there were nineteen persons unvaccinated; fifteen of these were attacked by smallpox and nine died. This evidence is in expansion of that I gave, showing that *sanitary circumstances have little or no control over smallpox* when compared with the condition of vaccination or no vaccination.

We have ventured to put in italics a few of the choicer bits of this truly wonderful story; there can be no objection to a little extra bunting to make so good a ship look trim.

Now, the appearance of this vessel in the Commission-room made the whole story wear an air of importance which it had never worn before. So there was nothing for it but to thoroughly hunt it up. If the Local Government Board were at so much pains to get the figures, how were we ever to compass them? Well, much is possible to those who thirst for information, and we now know all about the Preussen; and we find her a total wreck. Let us follow her fortunes right through from the beginning, taking as our authorities the two reports of the two Australian Governments concerned—"Smallpox on Board the s.s. Preussen, Victoria, 1887, No. 12," and the "Report of the Board of Health in connection with the Quarantine of the s.s. Preussen, New South Wales, 1887."

The Preussen, according to these reports, is a North German Lloyd's vessel of 4,000 tons. On November 3, 1886, she sailed from Bremer to

Antwerp, where she took on board steerage passengers to the number of 544, whereof 392 were British. Her crew totalled up to 123, three of whom were stewardesses. This amounts to 667 souls, and already blows to atoms Mr. Thorne's 312 as the total number on board—a figure, be it remembered, which the Local Government Board “took some pains to get.” Thence the *Preussen* sailed for Southampton. Most people will, therefore, wonder why the British passengers were first taken to Antwerp and there put on board when they might have been picked up at Southampton. And, indeed, in the solution of this puzzle, lies the key to the whole thing. For the reason for thus embarking the English passengers is stated to be that it was desired to evade the English law, which, by the Imperial Passengers' Acts of 1855 and 1863, ensures something like decency and something like sanitation for emigrant ships. At Southampton “a few” cabin passengers were taken on board, the precise number of whom was not stated\*; and on November 7th she sailed for Port Said. Arriving there on the 18th, thirty-five additional passengers were taken on board, and the vessel was there delayed until the 22nd, to await the arrival of the mails coming by the Brindisi route. During this, as it proved, literally fatal delay, the passengers were allowed to go on shore without any restriction, and as smallpox was raging in the Arab quarter of the town at the time, it is little to be wondered at that the disease was brought on board. Leaving Port Said on the 22nd, the ship arrived at Aden on the 27th, having taken in five more passengers at Suez, and sailed next day for Albany; and, as we hear nothing of her landing any of her living cargo, it would seem that the total number on board, stated by Mr. Thorne at 312, was, in reality, no less than 707, exclusive of

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\* The actual number must have been sixteen. See Table below.

the "few" first-class passengers—a fine specimen of the result when the Local Government Board is at "some pains to get the figures." What, then, were the surrounding circumstances, the intimate daily conditions of life, under which these 707 human beings, this congested mass of men, women, and children, left Aden to face the long voyage across the great Southern ocean, with the prospect before them of more than a fortnight on the high seas?

Here we arrive at a good deal of contradiction amongst those most likely to be well informed, the German Consul-General at Sydney contending strongly that the reports of the English authorities were unduly severe upon a vessel of his nationality. But it is from this German Consul, himself, that we learn that the cubic space in the "tween-decks" for 320 adults and sixty-seven children was 40,188 cubic feet, or a space per head, after allowing that each child should have only half the space of an adult, of only 114 cubic feet apiece. To cross the Line "between-decks" with a space of not quite five feet each way per head is bad enough in itself, but this is nothing to what follows; for, after admitting that there is great variation in the accounts of the measures taken during the voyage, Dr. Ashburton Thompson, of the New South Wales Health Department, thus describes the state of the vessel on her arrival at Port Jackson on December 26th:—

"Certain matters are admitted, of which the most important are, that steerage-passengers were allowed to remain in their bunks during the day-time; that they were allowed to take their bedding on deck to sleep; that they were not made to take their bedding on deck to air it, or to assist in keeping their quarters clean; that although separate quarters were provided for single men, single women, and married people, yet in many instances single men and single women, not related or acquainted with each other, were lodged together in the married quarters, where all these three



classes occupied berths without screens or partitions of any kind between them; that the space under the bottom berths in the single men's quarters forward was occupied by barrels of provisions, most of which remained there to the end of the voyage; and that only seven closets, according to Captain Pohle, or five, according to the unanimous testimony of the passengers, were allotted to the use of 544 persons in the steerage. I am satisfied, further, that these closets were filthy throughout the voyage, except after special complaint made by bodies of passengers to the captain. But as to steps taken to ensure cleanliness, it is not worth while to endeavour to settle what they were, since they failed in any case; for the quarantine officers, who supervised the fumigation and cleansing of the *Preussen*, and who have, during the past three years, performed the same duties in respect of very many steam passenger-ships of all lines running to this port, when they have been sent to quarantine either because they were infected or because they were dirty, agree in considering this the filthiest vessel they have had to deal with."

This is pretty strong in itself, yet it only confirms the observations made at the Quarantine Station at Port Nepean, Melbourne, which the ship had reached on December 22nd. From the Melbourne report we learnt that "pigs and other live stock were so placed, that drainage from their pens rolled backwards and forwards with the motion of the ship." In fact, "it is impossible to doubt that the ordinary rules for the preservation of health and enforcement of decency were neglected, and we fear the most obvious precautions against the spread of smallpox were omitted." And, finally, as if to clench the nail, we have the following letter from the officer whose duty it was to perform the actual disinfection of the vessel:—

Quarantine Station, North Head,  
Jan., 1887.

SIR,—In accordance with your request as to the state of the s.s. *Preussen* when first I boarded her

in quarantine, I found her in a most filthy condition in all the compartments with the exception of the saloon. The paint-work and the deck looked like as if it had not been cleaned all the voyage. In the fore compartment of the third class was stowed, under the berths, provisions, comprising salt meat and potatoes, which could not have been shifted all the voyage, as the smell was abominable. She is, without exception, the dirtiest ship that I have ever done.—I have, &c.,

W. NICKELS,

In charge of the Disinfecting Staff.

To the Superintendent of Quarantine.

Such, then, is the true state of a vessel chosen by Mr. Thorne Thorne as the example, par excellence, which is to prove that "sanitary circumstances have little or no control over smallpox." There can be but little wonder that smallpox, when once introduced, should rage with virulence on board of a vessel thus ordered. The wonder would be if it had not. And, indeed, we believe the conditions were bad enough of themselves to have raised a flourishing crop of smallpox *de novo*, without any intervention of the Arab quarter at Port Said at all. In the face of such facts, it is at once curious and sad to note that Dr. Thompson has imbibed to the full the—in our view—utterly pernicious doctrine that sanitation is powerless against smallpox. At the conclusion of the very report which contains all these horrible details, he yet writes—"Cleanliness can save cities from cholera but it can do nothing of consequence against smallpox." Where, we would ask, has sanitation been fairly tried against smallpox and failed? In Leicester it does not fail because it is tried; on the Preussen it did not fail because it was not tried.

Smallpox, then, broke out on board of this over-crowded, filthy, utterly insanitary ship. We have yet to see what definite evidence the vessel afforded as to the value of vaccination.

The Preussen sailed from Aden on the 28th of

November, and, from Aden to the Line, diarrhoea was very prevalent and severe, passing in sundry cases into a dysenteric form. On December 5 John Pryce, a passenger, reported himself sick with what turned out to be smallpox, and eventuated fatally. On the 7th the symptoms of smallpox were recognized and the patient was placed in one of the second-class cabins, and sundry measures, which the Colonial authorities are unanimous in regarding as wholly insufficient, were taken for his "isolation." On the 9th the whole of the crew, the stewards, and "about 137" of the passengers, according to the German Consul, were vaccinated by the ship's doctor, but very few of them were successful, owing, it is said, to the dilution of the lymph to eke it out. In this position the Preussen arrived on the 15th at Albany, with one smallpox case on board. Here strict quarantine was maintained against her, and stores having been put on board of her "with due precaution," she proceeded to Adelaide, where she arrived on the 20th. By this time Pryce was in a dying condition, and actually died within a very few hours of the ship's arrival. His body was towed in a boat fifteen miles out to sea, and thus committed to the water. Twenty-seven passengers and two stewards were landed at this port, of course into strict quarantine, and amongst the persons thus landed, as also amongst those who proceeded to Sydney, no more cases of smallpox showed themselves until the 27th—a most important date for anyone who wants to really understand the Preussen case. For it shows one of two things—either that every subsequent case must have arisen from direct infection from Pryce, or else that smallpox was, as it were, growing up in the favouring environment of the filth and disorder of the vessel. From Adelaide the Preussen sailed for Melbourne, having on board at this time, be it remembered, no case of smallpox, and a crew on which vaccination had already been once tried since their

embarkation. At Melbourne she arrived on the 22nd of December, and here some calf-lymph was procured, and the whole crew was again re-vaccinated. The Melbourne passengers were landed into quarantine to the number of 260, and one assistant engineer succeeded in deserting. Proceeding thence to Sydney, the remaining passengers, 312 in number, were landed into quarantine there together with the crew, 117 hands, and three stewardesses. So that we can now estimate the real number of "persons on board this vessel," stated by Mr. Thorne, in his above-quoted evidence, as 312. For we have—

At Adelaide—	
Landed .....	29
Died .....	1
At Melbourne—	
Landed .....	260
Deserted .....	1
At Sydney—	
Landed passengers ....	312
„ crew .....	117
„ stewardesses ..	3
<hr/>	
Total .....	723

From this table we can learn the real number of those mysterious cabin passengers who joined at Southampton; since, having already accounted for 707 passengers of the other classes, there must have been sixteen of these to make up the total. And we learn, also, the origin of Mr. Thorne's absurd error in speaking of the total number as 312. He has taken the number of the Sydney passengers alone as the total of living souls on board. The truth is just double of his statement with a hundred to spare. This is sufficiently near for a case in which the Local Government Board "took some pains to get the figures," and quite good enough for Mr. Thorne.

We have now to follow the fate of the various groups thus landed.

Of those landed at Adelaide we hear but little more. It would seem that one woman developed smallpox at the quarantine station, but as we hear no more she probably did well. As we noted above, the case appeared on the 27th of December.

Of those landed at Melbourne, the number is variously given. We have followed above the figures of Dr. MacLaurin, but Dr. Thompson makes it only 230, and the Melbourne Report itself puts it at 235. However this may be, all who landed were immediately revaccinated on December 24. Between December 31 and January 7 there were twenty-nine cases of smallpox amongst this number. According to the common theory, therefore, the revaccination was not in time to be of any avail in preventing these attacks. The details of these twenty-nine attacks are drawn out in a very full tabular form in the Melbourne Report—a form which we regret not to have space to reproduce. From it we learn that the revaccination of these twenty-nine patients was successful in nine cases, doubtful in one, and a failure in nineteen. But as the dates destroy the importance of this revaccination, we must go to the column which gives the information about the primary vaccination in order to learn what effect has been produced by such vaccination as our law enforces—the only vaccination it is ever likely to enforce. We find that of the twenty-nine cases the results of the primary vaccination stood thus:—

Marks.	Cases.	Deaths.
1 .....	9 .....	0
2 .....	4 .....	0
3 .....	8 .....	1
Doubtful .....	2 .....	1
Not stated ....	5 .....	1
Unvaccinated ..	1 .....	0

Of the best-protected cases of all one died; the only unvaccinated case recovered. The fatal three-mark case was complicated with phthisis, and the

fatal case of "vaccination unstated" was that of a little child two and a-half years of age, complicated with convulsions from teething. Of the eight three-mark cases, four were confluent and severe; all the two-mark cases were mild, and only three of the one-mark cases were severe. According to the experience of these patients, therefore, it is better to have two marks than one, and better to have one than three. So that the marks theory takes nothing from the Melbourne experience, and vaccination, as a whole, takes less. And we are quite at a loss to discover the justification for the declaration in the Melbourne Report that the "record of the facts is none the less important as pointing to the extreme necessity for compulsory vaccination."

Passing on, now, to the arrival of the *Preussen* at Sydney, we have the one chapter in the history which seems, at first reading, to tell in favour of vaccination; the one small portion of the experience which, being favourable, was selected as the subject of Mr. Thorne's evidence, and by him represented as being the whole. On arrival at Sydney the vessel discharged into quarantine every living soul left on board, to the number (see Table above) of 432. The 312 of these who were passengers were represented by Mr. Thorne as constituting the entire number of persons on board. And we can easily imagine that it suited his argument best to avoid all notice of the crew, for amongst the 120 therein comprised there occurred fourteen cases of smallpox, with one death and one severe case not fatal. Every one of these fourteen cases bore marks of primary vaccination; no less than six had been not only vaccinated but revaccinated before embarkation; and when we combine this fact with what we have already learnt of the procedure adopted on the voyage, we can contemplate, in respect of these six cases, a vaccinal history at once long, varied, and interesting. For each of these six cases was vaccinated once primarily; vaccinated a



second time before going to sea; vaccinated a third time with glycerine-diluted lymph on December 9th; vaccinated a fourth time at Melbourne with the calf-lymph there obtained. In five out of the six cases the scars of vaccination are described as characteristic, of good foveation and sufficient area. Sir John Simon declares that the vaccinated cannot betray any remnant of susceptibility to infection, yet here are six cases, in the crew alone, of persons vaccinated up to the eyes and still persisting in taking the complaint. The doctor's attendant was one of those attacked, and suffered severely; and, though it is not so stated, it is almost inconceivable that his was not another case of revaccination before sailing. Here, then, we have in this crew a body of men upon whom vaccination had been carried out *ad nauseam*, and that vaccination calmly disregarded by the disease in its onset. Mr. Thorne may well have forgotten the crew.

Turn we now to the 312 passengers. Here we have a case made out which is plausible on the face of it—just that kind of case which fails not to illumine the official mind with a holy joy. There were sixty-five cases with twelve deaths. Of the twelve deaths nine were unvaccinated. What more can mortal man require? But looking a little further, we find that of these nine deaths no less than five were of little children under ten years of age, whereof three were under one year, and one was a mite of a baby only three weeks old! Only three weeks old, and therefore born on board. Born into the fœtor, squalor, and wretchedness of this, the “filthiest vessel” the quarantine authorities “have ever had to deal with”! Needless to say that this most important fact is wholly omitted by Mr. Thorne; to a savage wine is wine, and to Mr. Thorne an unvaccinated death counts one. But when we compare the age-periods fairly, as well as the information given enables us to do so, we find that of persons over twenty years of age there

died three unvaccinated and three vaccinated. And another error there is here of a most important character. Mr. Thorne follows the Sydney Report in the statement, that of fifty-five "persons" revaccinated before embarking, only *four* were attacked—a percentage of 7·3. This follows the Table on p. 13, which alludes to the passengers only, and even so is an error, there being *five* cases amongst these alone; whilst if "persons" is to be taken as embracing all on board, including the crew, the true figure will be *eleven* instead of either four or five.

Of the thirteen persons on board who had already had smallpox, three were again attacked—a percentage of 23—one case being very severe. "Vaccination," said Jenner, "will do for you whatever a previous attack of smallpox would have done." If it did for the population at large what previous smallpox did for the people of the Preussen, it would make us comfortably certain that whenever smallpox broke out, just about a quarter of us would catch it, with every kind of result, from the mild form up to that severe enough for "endangering life."

As a plea for vaccination, therefore, the history of the Preussen breaks down on all the counts and in every aspect. But something can be learnt from these reports even so. For the authorities of the different Colonies fall out; and when that happens among medical men, one of the parties to the dispute is sure to talk sense, if only for the sake of contradicting the other. In this particular case, Sydney blames Albany, and it must be confessed not without reason; and Dr. Thompson thus delivers himself on p. 19 of his Report:—

"But could nothing have been done at Albany to check the outbreak? The Preussen arrived there on December 15, at 8·15 a.m. She then had on board a single case of smallpox, at the tenth day of illness, and one man whose illness might or might not have been avoided by vaccination on



that date. It is clear that there was yet time to do everything that was necessary. Had the patient been landed, had an intelligently-conducted inspection been made by the health-officer, and had even only those persons who were found to stand most in need of vaccination been done; had the unvaccinated been removed and ordered to perform quarantine there; and had only such fumigation and cleansing been done as is possible while all passengers remain on board, it is probable that no further cases would have occurred, and all but certain that there would have been no serious cases. And this, I venture to say, would have been not merely the humane and neighbourly, but the scientific course to have taken; no argument against it can be advanced which can be supported without a blush. . . . It has been asserted, indeed, that there is at Albany no quarantine staff to disinfect a ship. But this is a mere evasion. What was most urgently required was removal of the patient, some vaccine, a few barrels of sulphur, and an intelligent physician to supervise and carry out the necessary operations; the ship could have furnished hands. Even thus much carefully done would have saved much suffering and several lives. There is no reason whatever to hesitate to accept that conclusion."

Here we are almost in agreement with the Report. If the allusions to vaccination were but omitted, we should be charmed to concur in the remaining wholesome declaration that sanitary measures, vigorously carried out, would in all probability have sufficed to save most of the suffering and nearly all the lives. That is, indeed, the true moral of the history of the Preussen; a good and sufficient reason why Mr. Thorne should quote it to show that "sanitary circumstances have little or no control over smallpox when compared with the condition of vaccination or no vaccination."

